

CLAIMS

What is claimed is:

1. An article carrier for supporting articles above an outer body surface of vehicle, said article carrier comprising:

a pair of support rails adapted to be secured to said outer body surface generally parallel to one another and in spaced apart relation to one another, each said support rail forming a channel;

at least one cross bar having a length sufficient to span between said support rails, said cross bar having a pair of opposing ends with a locking mechanism disposed at each one of said opposing ends, each said locking mechanism including:

a housing for engaging with said channel of an associated one of said support rails;

an actuating member having a manually engageable portion for facilitating engagement of said actuating member within at least one finger of an individual, a camming surface and an attachment portion, said actuating member being pivotally mounted on said housing such that said manually engageable portion can be rotated, thereby causing rotating of said actuating member without said actuating member interfering with said outer body surface;

a locking pin disposed for linear movement within said housing and including a cam follower surface for engaging with said camming surface of said actuating member, said camming surface operating to urge said locking pin

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linearly out of engagement with said associated one of said support rails when said actuating member is moved to an unlocked position;

a biasing member for urging said locking pin into locking engagement with said associated one of said support rails when said actuating member is placed in a locked position;

an elongated member extending within said cross bar and coupled at a first end thereof to said attachment portion of one of said actuating members, and being operably coupled at a second end thereof to said locking pin of said actuating member at said opposing end of said cross bar; and

wherein movement of one of said actuating members from said locked to said unlocked positions causes a generally simultaneous movement of said locking pin at the other one of said actuating members, thereby disengaging both of said locking pins from their respective said support rails generally simultaneously.

2. The article carrier of claim 1, wherein said cam follower surface of said locking pin comprises a post extending generally transversely of a longitudinal axis of said locking pin.

3. The article carrier of claim 1, wherein said cam follower surface of said locking pin comprises a pair of posts extending in opposite directions from one another;

and wherein said camming surface of said actuating member comprises a pair of spaced apart curved surfaces for engaging with said pair of posts.

4. The article carrier of claim 1, wherein said elongated member comprises first and second lengths; and

wherein said article carrier further comprises a central biasing element disposed within said cross bar and interposed between said first and second lengths of said elongated member to ensure that no slack develops between said first and second lengths.

5. The article carrier of claim 1, wherein said elongated member comprises a cable.

6. The article carrier of claim 1, wherein said elongated member comprises a cable having first and second lengths; and

wherein said article carrier further comprises a central biasing element interposed between said first and second lengths to form an intermediate section of said cable.

7. The article carrier of claim 1, wherein said locking pin includes an elongated slot; and

wherein said housing includes a pivot pin extending through said elongated slot for pivotally supporting said actuating member within said housing, said elongated slot enabling said locking pin to be moved linearly within said housing while said actuating member is in said locked position.

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8 An article carrier for supporting articles above an outer body surface of vehicle, said article carrier comprising:

a pair of support rails adapted to be secured to said outer body surface generally parallel to one another and in spaced apart relation to one another, each said support rail forming a channel;

at least one cross bar having a length sufficient to span between said support rails, said cross bar having a pair of opposing ends with a locking mechanism disposed at each one of said opposing ends, each said locking mechanism including:

a housing for engaging with said channel of an associated one of said support rails and moveable along said channel, said housing having a recess formed in an outer surface thereof;

an actuating member having a manually engageable lever for facilitating engagement of said actuating member within at least one finger of an individual, a camming surface and an attachment portion;

a pivot pin disposed in said housing for supporting said actuating member for pivotal movement relative to said housing;

said lever being rotatable about said pivot pin, thereby causing rotation of said actuating member without said actuating member interfering with said outer body surface;

a locking pin disposed for linear movement within said housing and including a cam follower surface for engaging with said camming surface of said actuating member, said camming surface operating to urge said locking pin linearly out of engagement with said associated one of said support rails when said actuating member is moved to an unlocked position;

a biasing member for urging said locking pin into locking engagement with said associated one of said support rails when said actuating member is placed in a locked position;

said actuating member being disposed within said recess when in said locked position and said lever projecting outwardly of said housing when said actuating member is in said locked position;

a cable extending within said cross bar and coupled at a first end thereof to said attachment portion of one of said actuating members, and being coupled at a second end thereof to said locking pin of said actuating member at said opposing end of said cross bar; and

wherein movement of one of said actuating members from said locked position to said unlocked position causes a generally simultaneous movement of said locking pin at the other one of said actuating members, thereby disengaging both of said locking pins from their respective said support rails generally simultaneously.

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9. The apparatus of claim 8, wherein said cable is comprised of first and second sections coupled together by a central biasing element.

10. The apparatus of claim 8, wherein said cam follower surface comprises a post extending generally transversely of a longitudinal axis of said locking pin.

11. The apparatus of claim 8, wherein said cam follower surface comprises a pair of posts extending transversely of said locking pin.

12. The apparatus of claim 8, wherein said locking pin includes an elongated slot for receiving said pivot pin therethrough, said elongated slot enabling linear movement of said locking pin within said housing without interference from said pivot pin.

13. The apparatus of claim 8, further comprising a pair of said cables, and

wherein each actuating member of each said housing is coupled via one of said cables with said locking pin of the other said housing, such that moving either one of said actuating members to said unlocked position causes both of said locking pins to be generally simultaneously moved into said unlocked position.

14 A cross bar adapted to be used with a pair of support rails, where the support rails are secured to an outer body surface of a vehicle, for supporting articles thereon above said outer body surface, said cross bar comprising:

a tubular portion having opposite end portions;

a housing disposed at each of said opposite end portions;

each said housing including:

a pivotally mounted actuating member mounted therein and moveable between a locked position and an unlocked position, said actuating member having a first camming surface;

a locking pin disposed for linear movement therein and adapted to engage a respective one of said support rails to lock its associated said housing at a specific position along its associated said support rail, said locking pin including a second camming surface engageable with said first camming surface to enable said locking pin to be cammingly urged linearly into engagement with its respective said support rail when said actuating member is moved into said locked position, and moved out of locking engagement with said associated support rail when said actuating member is moved into said unlocked position;

a biasing element for urging said locking pin into engagement with said associated support rail when said actuating member is urged into said locked position;

an elongated coupling element for connecting said actuating member with said locking pin of the other said housing; and

wherein movement of one of said actuating members into said locked position causes said locking pin within each of said housings to be urged substantially simultaneously into engagement with their associated said support rails, thereby permitting said cross bar to be repositioned along said support rails; and

wherein movement of one of said actuating members into said locked position causes both of said locking pins to be urged substantially simultaneously into engagement with its associated said support rail.

15. The cross bar of claim 14, wherein said elongated coupling element comprises a cable having first and second sections coupled together by a central biasing element, said central biasing element operating to maintain said cable taut between said actuating member and said locking member between which it is coupled.

16. The cross bar of claim 14, further comprising:
a pair of elongated coupling elements, each said coupling element having first and second sections;

a pair of central biasing elements, with one of said central biasing elements being secured between said first and second sections of a respective one of said coupling elements;

said central biasing elements operating to maintain each said elongated coupling element taut.

17. The cross bar of claim 14, wherein each said locking pin includes an elongated slot through which said pivot pin of its associated said housing projects, to thereby permit linear as well as pivoting movement of said actuating member.

18. The cross bar of claim 14, wherein said locking pin is disposed within said housing so as to be concealed regardless if said actuating member is in said locked position or said unlocked position.

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